

What is Claimed:

1. A method comprising:
 - (a) capturing polypeptides from a sample, wherein the polypeptides comprise troponin and at least one modified form of troponin; and
 - (b) specifically measuring captured troponin.
2. The method of claim 1 wherein the troponin is troponin C.
3. The method of claim 1 wherein the troponin is troponin I.
4. The method of claim 1 wherein the troponin is troponin T.
5. The method of claim 1 comprising measuring a plurality of troponins and determining a relative ratio of amounts.
6. The method of claim 1 wherein the polypeptides are captured with a biospecific capture reagent.
7. The method of claim 1 wherein the polypeptides are captured with a chromatographic adsorbent.
8. The method of claim 1 further comprising specifically measuring at least one modified form of troponin.
9. The method of claim 1 further comprising capturing and measuring a polypeptide interactor of troponin.
10. The method of claim 1 wherein the captured polypeptide is measured by mass spectrometry.
11. The method of claim 1 wherein the captured polypeptide is measured by affinity mass spectrometry.
12. The method of claim 1 wherein the sample is a subject sample and the method further comprises:
 - (c) correlating the detected troponin with a clinical parameter in the subject.

13. The method of claim 12 wherein the clinical parameter is presence or absence of acute coronary syndrome.
14. A method comprising:
 - (a) capturing at least one modified form of troponin polypeptide from a sample; and
 - (b) specifically measuring the at least one captured modified form of troponin polypeptide.
15. The method of claim 14 wherein the troponin is troponin C.
16. The method of claim 14 wherein the troponin is troponin I.
17. The method of claim 14 wherein the troponin is troponin T.
18. The method of claim 14 wherein the polypeptide is captured with a biospecific capture reagent.
19. The method of claim 14 wherein the polypeptide is captured with a chromatographic adsorbent.
20. The method of claim 14 further comprising capturing and measuring a polypeptide interactor of at least one modified form of troponin.
21. The method of claim 14 wherein the captured polypeptide is measured by mass spectrometry.
22. The method of claim 14 wherein the captured polypeptide is measured by affinity mass spectrometry.
23. The method of claim 14 wherein the sample is a subject sample and the method further comprises:
 - (c) correlating the detected modified form of troponin with a clinical parameter in the subject.
24. The method of claim 23 wherein the clinical parameter is presence or absence of acute coronary syndrome.

25. The method of any of claims 14-23 comprising capturing and specifically measuring a plurality of modified forms of troponin from the sample.
26. A method for discovering polypeptides that interact with troponin comprising:
- (a) capturing troponin from a sample with a biospecific capture reagent;
 - (b) removing molecules that are not bound to the biospecific capture reagent or troponin; and
 - (c) measuring molecules bound to the captured troponin.
27. The method of claim 26 wherein the molecules are measured by affinity mass spectrometry.
28. A method comprising:
- (a) providing a learning set comprising a plurality of data objects representing subjects, wherein each data object comprises data representing a specific measurement of troponin from a subject sample and a clinical parameter of the subject; and
 - (b) determining a correlation between specific measurement of troponin and the clinical parameters.
29. The method of claim 26 wherein providing the learning set comprises:
- i. capturing troponin from the sample with an antibody, and
 - ii. specifically measuring captured troponin.
30. The method of claim 29 wherein the captured polypeptide is measured by affinity mass spectrometry.
31. A method comprising:
- (a) providing a learning set comprising a plurality of data objects representing subjects, wherein the subjects are classified into a plurality of different clinical parameters and wherein each data object comprises data representing specific measurement of a plurality of polypeptides from a subject sample wherein the polypeptides are selected from troponin and at least one modified form of troponin; and

(b) training a learning algorithm with the learning set, thereby generating a classification model, wherein the classification model classifies a data object according to clinical parameter.

32. The method of claim 31 wherein the clinical parameters are selected from presence or absence of disease; risk of disease, stage of disease; response to treatment of disease; and class of disease.

33. The method of claim 31 wherein the learning set further comprises data representing specific measurement of a polypeptide interactor of troponin.

34. The method of claim 31 wherein providing the learning set comprises:

- i. capturing the polypeptides from the sample with an antibody, and
- ii. specifically measuring captured polypeptides.

35. The method of claim 34 wherein the captured polypeptide is measured by affinity mass spectrometry.

36. The method of claim 31 wherein the learning algorithm is unsupervised.

37. The method of claim 31 wherein the learning algorithm is supervised and each data object further comprises data representing the clinical parameter of the subject.

38. The method of claim 31 further comprising using the classification model on subject data from a subject of unknown clinical parameter to classify the subject according to a clinical parameter.

39. The method of claim 38 wherein the clinical parameter is presence or absence of acute coronary syndrome.

40. The method of claim 31 wherein the supervised learning algorithm is selected from linear regression processes, binary decision trees, artificial neural networks, discriminant analyses, logistic classifiers, and support vector classifiers.

41. The method of claim 40 wherein the supervised learning algorithm is a recursive partitioning processes.

42. A method comprising:
- (a) specifically measuring troponin in a subject sample; and
 - (b) correlating the measurement with a clinical parameter of the subject.
43. The method of claim 42 wherein the clinical parameter is acute coronary syndrome.
44. The method of claim 42 further comprising specifically measuring at least one modified form of troponin and correlating the measurements with the clinical parameter.
45. The method of claim 42 further comprising specifically measuring at least one biomolecular interactor of troponin or anti-troponin antibody or a modified form of troponin and correlating the measurement with the clinical parameter.
46. The method of claim 44 further comprising specifically measuring at least one biomolecular interactor of troponin or anti-troponin antibody or a modified form of troponin and correlating the measurements with the clinical parameter.
47. A method comprising:
- (a) specifically measuring a modified form of troponin in a subject sample; and
 - (b) correlating the measurement with a clinical parameter of the subject.
48. The method of claim 47 wherein the clinical parameter is acute coronary syndrome.
49. The method of claim 47 further comprising specifically measuring at least one biomolecular interactor of troponin or anti-troponin antibody or a modified form of troponin and correlating the measurements with the clinical parameter.
50. A method comprising:
- (a) specifically measuring at least one biomolecular interactor of troponin or anti-troponin antibody or a modified form of troponin in a subject sample; and
 - (b) correlating the measurements with a clinical parameter of the subject.
51. The method of claim 50 wherein the clinical parameter is acute coronary syndrome.
52. A method for qualifying an immunoassay calibrator for a troponin immunoassay comprising:

- (a) providing an immunoassay calibrator for a troponin immunoassay, wherein the calibrator comprises a designated concentration of troponin;
 - (b) capturing polypeptides from the calibrator with an anti-troponin antibody; and
 - (c) specifically measuring an amount of at least one polypeptide selected from troponin and modified form of troponin captured by the antibody, whereby the measured amount provides an indication of the quality of the immunoassay calibrator.
53. The method of claim 52 comprising specifically measuring troponin.
54. The method of claim 52 comprising specifically measuring a modified form of troponin.
55. The method of claim 52 comprising specifically measuring troponin and a modified form of troponin.
56. The method of claim 52 comprising determining the amount of troponin captured as a function of total polypeptide captured by the anti-troponin antibody.
57. The method of claim 56 wherein the anti-troponin antibody is an antibody used with the immunoassay calibrator in a commercial immunoassay.
58. The method of claim 52 wherein the amount is measured by affinity mass spectrometry.
59. A method for qualifying an anti-troponin immunoglobulin reagent comprising:
- (a) analyzing an anti-troponin immunoglobulin reagent by mass spectrometry; and
 - (b) determining the relative amounts of intact anti-troponin immunoglobulin and anti-troponin immunoglobulin fragments in the reagent.
60. A method comprising measuring modified forms of an anti-troponin antibody in an antibody reagent for a troponin immunoassay.
61. The method of claim 60 further comprising measuring un-modified forms of the anti-troponin antibody in the reagent and comparing the measurement of un-modified antibody to the measurement of modified forms of the antibody.
62. The method of claim 60 wherein the anti-troponin antibody is a monoclonal antibody or a polyclonal antibody.

63. The method of claim 60 comprising specifically measuring the amount of at least one modified form of troponin in the immunoassay calibration sample.
64. The method of claim 60 wherein the measurements are performed by affinity mass spectrometry.
65. A purified modified form of troponin or an interactor of troponin or an interactor of anti-troponin antibody.
66. The purified modified form of troponin of claim 65 selected from a splice variant; a post-translational modification, or a product of enzymatic degradation.
67. The purified modified form of troponin according to claim 65 selected from the group consisting of 17455, 10300, 12600, 12900, 9200, and 9320.